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WEATHER, p. 3 Partly Sunny SAT: 25°F | 12°F Mostly Sunny

Volume 137, Number 40 Thursday, February 01, 2018

Survey measures graduate **student unionization support**Results show 62 percent of grad students are in favor

By Jessica Shi

ASSOCIATE NEWS EDITOR

The Exploratory Committee for Graduate Student Unionization at MIT wrote, distributed, and analyzed an opinion survey on their titular issue. The survey was initially sent to dorm mailing lists last Monday, and final results were released

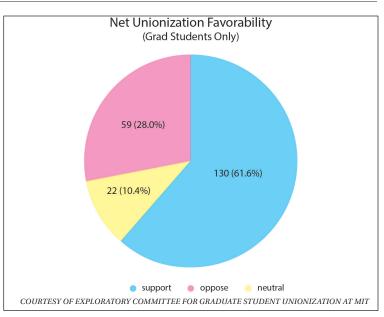
167 of the survey respondents

self-identified as PhD students, and 38 self-identified as Master's students. Undergraduates and other MIT affiliates were also able to respond, but graduate student data was extracted and analyzed separately.

Respondents ranked their level of support for a potential MIT graduate student union on a scale of 1 ("definitely oppose") to 7 ("definitely support"). Overall, PhD students averaged 4.86, while Master's students averaged 5.29.

In their analysis, the committee also distributed the numerical levels into broader categories: support (levels 5 through 7), neutral (level 4), and oppose (levels 1 through 3). Using this metric, graduate students "paint an overwhelmingly prounion picture," with 62 percent in

Unionization, Page 2



Institute launches AI research initiative

Intelligence Quest seeks to advance human and machine intelligence

By Jessica Shi

ASSOCIATE NEWS EDITOR

President L. Rafael Reif and School of Engineering Dean Anantha Chandrakasan announced Thursday the launch of MIT Intelligence Quest, an Institute-wide initiative to advance human and machine intelligence research.

The initiative, abbreviated as MIT IQ, consists of two interconnected components: The Core and the Bridge.

The Core will focus on the "science and engineering of intelligence," with a specific emphasis on using a reverse engineering approach to develop human-inspired machine-learning algorithms, Chandrakasan said in a press call Wednesday. The Bridge will emphasize the applications of these findings, by building a "wide swath" of new technologies and platforms that can be used across various

In parallel, MIT IQ hopes to further understanding of human intelligence via insights made from its research.

Within the Bridge component, one specific goal is bolstering student education. Machine learning classes at MIT are heavily oversubscribed, but many EECS faculty simply do not have enough time t teach more, Professor Josh Tenenbaum PhD '99, a member of the MIT Computational Cognitive Science Group, said in a follow-up call with The Tech.

Possible areas for educational improvement include devoting more teaching assistant and lab support to these classes, as well as adding supplementary classes to the curriculum, Tenenbaum said. Areas outside of the classroom may also be strengthened, such as by increasing funding for UROPs that help students learn how to use state-of-the-art artificial intelligence tools, Chandrakasan added.

MIT IQ will likely cost "hundreds of millions of dollars," Chandrakasan said in the press call, and funding is expected come from both philanthropy and industrial

Correspondents from The Boston Globe and Inside Higher Ed who were on Wednesday's call raised multiple questions on the purpose of MIT IQ — specifically, what this new enterprise would help MIT accomplish that it cannot already do now with existing labs and

Chandraksan explained in twofold: to amplify existing initiatives and to provide resources for the creation of new, interdisciplinary initiatives. However, his answers

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Toscanini's Central Square loc. closed until July for renovations 'Massive' new location on First Street opened last Thursday:

'We'll be making almost all of our ice cream there,' owner says

By Jessica Shi

ASSOCIATE NEWS EDITOR

Local ice cream store Toscanini's has temporarily closed their 899 Main Street location in Central Square for renovations since Jan. 23. Until they reopen, customers can visit their new location on 159 First Street: its opening was announced via Twitter Jan 25.

The Main Street location is being renovated "to meet handicapped access standards," owner Gus Rancatore wrote in an email to The Tech. The store will be closed through July, according to Cambridge Daycoverage from Jan. 25.

As for the new First Street location, it occupies a "massive" 3,500 square feet, making it much larger than the old one, the Cambridge Day reported. Other upgrades include digital monitors, instead of the previously used chalkboard

Production will also move to the First Street location, even after the Main Street location reopens. "We will be making almost all our ice cream there," Rancatore wrote to

Much ambiguity and uncertainty has surrounded the timeline. Rancatore did not answer multiple requests from The Tech for confirmation on closing and opening dates, and his sister told The Tech in a phone call Jan. 24 that they hoped to open later that day.

"After many misadventures we are open," Rancatore told Cambridge Day.

Toscanini's has been at 899 Main Street since 1981. Over the years, their neighbors have included "Science For The People, gay activists, grad students, card counters, a person who wrote term papers for pay, members of the band Lizards in a Circle, and two Sloan grads who were hired by the early video game company, Atari," Rancatore wrote to The Tech.

The building around the Main Street Toscanini's is also undergoing renovations, Boston Magazinereported in October: the landlord is turning it into a boutique hotel. Patty Chen's Dumpling Room "plans to return," while Cinderella's Restaurant has "closed for good."

The First Street location is further from MIT's main campus than its Main Street counterpart. Starting from Lobby 7, it would take approximately 25 minutes (compared to 9 minutes) to walk there, Google Maps estimates.

Inside look at spring dorm transfer lottery process, 48 people enter on average annually, MIT Housing says White. In 2015, the Housing Of-Most residence transfers are If a student wishes to move to

another residence hall, they can complete a form in the housing portal that enters them in a lottery for spring residence. An average of 48 people each year since 2014 enter the lottery to transfer dorms for the spring semester, and an average of 92 percent of the requests are granted, according to Jennifer Hapgood-White, associate director of housing assignments. The most requested building varies each year.

The form is available starting November, and students can rank up to four residence halls. The results of the lottery are released the first week of December.

The highest number of residence hall transfer requests was 57 in 2014, while the lowest was 37 in 2015, according to Hapgood-

fice was able to fulfill all requests; however, in 2017, only 87 percent of requests were granted, the lowest percentage since 2014. Hapgood-White declined to release this year's data because the small pool of requests could potentially identify students.

There are multiple reasons why the percentage of granted requests varies. "If we have a high number of people entering the lottery from one building and requesting a different building where not many people entered, then we can't move those people," Hapgood-White said in an interview with *The Tech*. The number of spring housing cancellations due to early graduation also affects how many beds are available.

person-to-person swaps, but the Housing Office also adds extra students to a residence hall in some cases. "We work with dorms and room assignment chairs personally to see if they have s open, or if they want to take away from a triple or add someone in," Hapgood-White said.

Students who aren't granted their requests are placed on a waitlist, sometimes until the following fall.

The low number of people who request dorm transfers "speaks highly of the process in the previous spring and fall, especially for incoming students," DSL Director of Communications Matthew Bauer said in an interview with The Tech.

- Sharon Chao

IN SHORT

Registration for third quarter **P.E. classes** is open at mitpe.mit. edu and will close Wednesday, Feb. 7 at 1 p.m.

The deadline to register for **spring semester classes** is Friday,

Rebecca's Cafe will open today on the second floor of Walker Memorial. It will offer bowls, wraps, sandwiches, salads, and desserts. Its hours are 6 p.m.-1 a.m., Sun.-Thurs.

The Tech is looking for news and sports writers. Please write to join@tech.mit.edu to apply.

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REAL LIFE

What even is it? Phillip K. Dick weighs in. ARTS, p. 8

REG DAZE

Some tips for planning your schedule. CAMPUS LIFE, p. 5

PREMIERE ADVICE

Auntie Matter writes her first column. **CAMPUS LIFE, p. 5**



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Chloe Price is not your average teenager. ARTS, p. 8

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MIT alum to compete in the Winter Olympics in South Korea. SPORTS, p. 12

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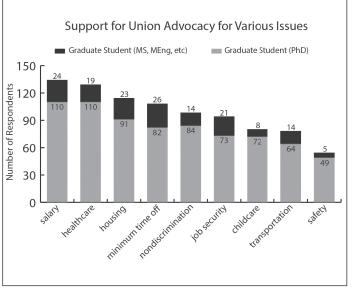
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Salary, healthcare, housing ranked top issues for survey respondents



COURTESY OF THE EXPLORATORY COMMITTEE FOR GRADUATE STUDENT UNIONIZATION
AT MIT

Unionization, from Page 1

support, according to the committee's email detailing the survey results.

Another survey question asked respondents to select which union-related issues they would want to see addressed in a collective bargaining agreement. Salary, healthcare, and housing

came out on top — 65 to 70 percent of all respondents selected them. Most other issues fell in the 40 to 50 percent range, with the exception of safety, which only 30 percent "gave a shit about," the committee wrote in its email.

The committee also reviewed trends in unionization opinions by department. On one side of the spectrum, 100 percent of Urban Studies and Planning respondents and Science Technology, and Society respondents were pro-union; on the other, 80 percent of Biological Engineering respondents were antiunion. However, the committee cautioned that their sample sizes were very small; in Biological Engineering, for example, only five responses were collected.

Graduate student unionization has erupted as a heated, controversial issue in recent years.

The National Labor Relations Board determined in a 2016 case involving Columbia University that student assistants (teaching and research) at private colleges and universities should be recognized as statutory employees, thus setting a new precedent.

Earlier that year, MIT had filed a joint amicus brief urging the opposite decision, arguing "that its relationship with its graduate teaching and research assistants is primarily an educational one and that unionization of graduate students could disrupt academic programs, mentoring and research," according to a FAQ website by the Office of

Graduate Education at MIT.

These FAQs also contain information on what unionization could mean for graduate students, particularly in regard to voting procedures and the scope of union negotiation powers.

The exploratory committee that organized the survey consists of four PhD students who hope to initiate dialogue around the issue of graduate student unionization at MIT, although they are not explicitly pro-union. They requested to remain anonymous, for fear that if they were seen as leaders of an unionization movement, they would be subjected to "undue scrutiny" from administrators and disapproval from their advisors.

At some peer institutions, the process of unionization has extended far past these preliminary stages. Harvard University, for example, is already well on its way to a second election on unionization: although a majority of students voted against it in a November 2016 election, due to an objection that the administration failed to provide a complete list of eligible voters, the NLRB ruled that a new election must be held.

MIT-IBM Watson AI Lab to become incorporated under MIT IQ

Institute, from Page 1

and the answers of other professors on the call were lengthy and at times seemed unconvincing, as reporters repeated and reiterated similar questions later in the call.

MIT currently has more than 200 principal investigators

working on intelligence-related research.

MIT IQ's launch comes just a few months after the September 2017 announcement of the MIT-IBM Watson AI Lab, which is funded by a ten-year, \$240-million investment by IBM. This Lab will be incorporated under MIT IQ, Chandrakasan confirmed with *The Tech*, and it will be a

"cornerstone" in this effort.

In his opening remarks during the press call, Reif also outlined what he believes to be key opportunities in AI. AI may eventually permeate "almost every field," Reif said, but currently, its scientific foundations are relatively dated, and there is a demand for new breakthroughs.

Reif also emphasized the so-

cietal and ethical implications of this research. For instance, as AI becomes a new source of wealth, it also risks becoming a new source of inequality, Reif said.

"We're very cognizant of that question, and we strongly believe that if you are creating new technologies, ... it's good to figure out how to use it in a way that ... benefits us all, " Reif said.



THURSDAY, FEBRUARY 01, 2018 THE TECH 3

WEATHER

A cold start to the semester

By Sarah Weidman $STAFF\,METEOROLOGIST$

After a warm beginning of the week, wet and cold weather will soon arrive again in the Northeast. Expect to experience very cold temperatures this weekend, especially on Saturday. This is due to another trough pushing cold northern winds south toward the northeast. This is an example of a typical Boston welcome to everyone arriving on campus for the beginning of the semester. In addition to cold temperatures,

expect scattered precipitation tonight and again on Sunday as another low pressure system moves in from the southeast. Depending on the temperature, this could result in rain or snow.

Elsewhere in the country, the northwest has been experiencing a typical wet winter. Only five days were reported as dry in Portland, Oregon, in the entire month of January. The entire region has received even more than the typical precipitation amounts this winter, and this could result inflooding throughout the area.

Extended Forecast

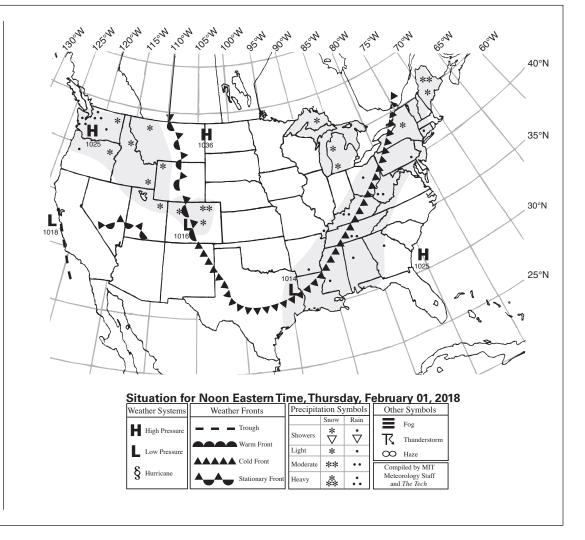
Today: Cloudy. High of 41 °F (5 °C). Southwest winds at 10-15

Tonight: Rain and/or snow likely. Low of 30 °F (-1 °C). Northwest winds at 15-20 mph.

Tomorrow: Partly sunny. High of 30 °F (-1 °C) and low of 15 °F (-9 °C). NW winds at 10-15 mph.

Saturday: Mostly sunny. High of 25 °F (-4 °C) and low of 12 °F

Sunday: Chance of rain and/or snow. High around 38 °F (3 °C).



MIT Climate Action Team hosts 'The Future of Climate Policy' panel Panelists discuss carbon pricing legislation to incentivize green technology

By Fiona Chen STAFF REPORTER

The MIT Climate Action Team hosted a panel last Thursday, titled "The Future of Climate Policy." Panelists discussed the benefits and disadvantages of carbon pricing legislation, which places a fee on carbon dioxide (CO2) emissions to incentivize the innovation and adoption of environmentally friendly technology and business practices.

The panel featured five speakers: Massachusetts State Senator Michael Barrett, Massachusetts State Representative Jennifer Benson, Climate XChange Policy Director Marc Breslow, Department of Urban Studies and Planning Professor Janelle Knox-Hayes, Sloan Professor John Reilly, and Sloan Professor Christopher Knittel.

Before the panel formally began, Robbie Madfis, the chief procurement officer of a company called Soli, spoke about the company's mission to "leverage consumer spending to reduce CO2 emissions, fight climate change, and support a sustainable business community." Companies pay Soli to serve as an

lipoints. In turn, Soli uses that money to buy and retire carbon credits, such that each dollar spent by an app user at a participating store is equivalent to two pounds of retired CO2. App users also earn one point for each dollar spent, and they can redeem points for cash to use personally or to donate to an environmental nonprofit.

Then, Barrett and Benson introduced their respective carbon pricing bills. Both place a fee on CO2 that will gradually increase until it reaches \$40 per ton. The main difference between the two is in the usage of money collected through this fee. Barrett's bill is 100% revenue neutral, meaning that all the money would be returned to households, businesses, and institutions through rebates. Benson's bill is revenue positive, and 80% of the money would be returned while the other 20% would be used to fund green infrastructure investments, such as funding for solar panels at local public school districts.

Barrett argued that the revenueneutral approach is preferable to protect low-income households. "A progressive income tax is a great way to fund solar programs. advertising platform on its app, So- bon tax is a bad way, relatively much of this opposition is mis- tribute to climate action awareness to mitigate climate change."

speaking, because it is a regressive tax. It hits you depending on the amount of fuel you consume rather than the amount of money you make," Barrett said.

Benson claimed that the revenue-positive approach is necessary to facilitate green infrastructure measures. "Time is not on our side. To only rely on market-driven measures without investing real dollars into ... climate adaptation and renewable projects, we're simply not going to get ahead of this problem," Benson said.

The rest of the panel members stated that they support both bills, as any form of carbon pricing would be useful for Massachusetts.

The panel also discussed counter-arguments against carbon pricing, the principal complaint being political opposition to a new tax. The carbon fee could increase the prices of commonplace goods, such as gasoline and heating. Reilly added that much of this negative impact would fall on low-income consumers, and that the government faced a challenge in generating the funds necessary to build more environmentally friendly infrastructure.

However, Knittel explained that

placed, as carbon pricing is a far cheaper and more effective method of reducing CO2 emissions than existing climate policies, such as fuel economy standards and renewable portfolio standards. Breslow agreed, stating that much of the issue stems from the fact that carbon pricing makes the financial costs of reducing emissions obvious, while the other policies hide the costs.

However, if Massachusetts can overcome this political opposition and pass a carbon pricing bill, it can serve as a model for similar legislation in other states and countries. "The power of any state-level price on carbon is as a demonstration project," Knittel said. "In 2020, Congress can use Senator Barrett's bill or Representative Benson's bill as this poster child that shows that carbon pricing actually works." Knox-Haves added that this legislation could spur international action, stating that "state initiatives are really important in demonstrating to the rest of the world that, even if at the federal level, the United States is inactive, at the sub-national level

In response to an audience restion about how MIT can conand policy, Barrett responded that many faculty members, including Knittel, have already been serving as sources of policy advice in the national battle against climate

Finally, Ben Harpt '18 provided some concluding remarks about ways MIT students and other Massachusetts residents could get involved in the fight against climate change and for a carbon pricing policy. He recommended that people sign up for email updates from the group Climate XChange, join the MIT Climate Action club, and sign its carbon pricing endorsement form.

"Although it's easy to become dismayed with the lack of climate leadership we're seeing on the federal level, we wanted to highlight how our state can take strong climate action," Claire Halloran '20 wrote in an email to The Tech. "We're hoping that this event will spark interest in the MIT community in climate policy. The MIT community is very focused on discussing the science of climate change and developing technology solutions, and we believe that these efforts must be complemented by policy solutions

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Thursday, February 01, 2018

FEATURE

MIT Concourse team restores Kendall T Station's musical installation

Instructor Steve Drasco and students ensure Paul Matisse's 30-year-old Kendall Band continues to resonate

By Whitney Zhang
STAFF REPORTER

The Kendall Band, a three-part musical sculpture in Kendall T Station, was first dedicated in October 1987. Each piece — Pythagoras, a line of alternating 16 bells and 14 hammers; Kepler, a 55-inch diameter ring and hammer; and Galileo, a stainless steel "thunder sheet" — can be played by someone standing on either platform of the station.

Artist Paul Matisse, now 84, had spent years carefully crafting and tuning the three pieces. Matisse comes from an artistic lineage as grandson of Henri Matisse and stepson of Marcel Duchamp. He studied at the Harvard Graduate School of Design's architecture program. In 1963, Matisse invented the Kalliroscope, an artwork visualising currents in liquid, which he still sells to museums and research centers. After 1980, Matisse switched to working primarily with sound, including many large bell installations.

Matisse, in an interview with *The Tech*, said that inspiration for Pythagoras first came from being at an old heavy aircraft setting in the 1950s, when he tossed stones at several steel rods and they made "beautiful sound[s]."

Unfortunately, the Kendall Band broke soon after its installation, with Pythagoras failing before Kepler and Galileo were even fully installed. Matisse said, in an email to *The Tech*, that he himself recognized "as a not very sophisticated piece of machinery, it does have a few weaknesses: connections loosen or break, parts occasionally fail."

Matisse first worked on repairs alone. Matisse said that as he did repairs, he "would leave a message on the board [and] the message would receive comments." Comments ranged from thank-yous: "Thanks Paul, it does wonders for the decor," and, "Thanks, even the subways can be beautiful," to technical advice: "Galileo's cable needs tightening."

But, after nearly 20 years, Matisse began to tire of the work. He said, "I eventually realized that if its music mattered enough to the riders of the T, the repairs would have to come from a supporting group, ideally a small band of students from MIT."

In June 2009, MIT alumnus Seth Parker came to similar conclusions. He asked various organizations for support and ultimately found MIT Theater Arts's Clarise Snyder. Snyder then contacted MIT alumnus and technical instructor in Materials Science and Engineering Michael Tarkanian '00.

Tarkanian, in an email to *The Tech*, said that he "agreed to run the technical side of the project and Clarise ran the administrative side." They formed the Kendall Band Preservation Society, a student team of over 20 members. The MBTA trained and permitted the team to restore the Kendall Band. After 13 months, the team restored Pythagoras and held a re-installation ceremony on Apr. 30, 2011.

Soon, though, Tarkanian married and his professional responsibilities at MIT grew, the students graduated, and the Kendall Band Preservation Society lost its status as an official MIT student group. Tarkanian said, "I just ran out of time and energy to devote the project, but it kept me up at night not working on it because the Kendall Band is a special thing to me. I wanted someone to work on it."

Luckily, Tarkanian found Concourse physics instructor Steve Drasco. Drasco first experienced the Kendall Band in the early 1990s as a graduate student visiting from New York. In an interview with *The Tech*, he said he was fascinated by the installation's mixture of art and science.

But, when Drasco returned in 2016 to begin his job at MIT, he found that the Kendall Band was no longer working. Drasco's wife, an art historian at Harvard, connected Drasco to Matisse through a coworker. Matisse then brought Drasco to Tarkanian. Tarkanian called Drasco "a perfect fit."

By May 2017, Drasco and two of his students, Maxine "Max" Beeman '20 and Carlos Sendao '20, had fixed one of the outbound levers on Pythagoras, which once again chimed in the station. This year, Drasco has enlisted several more students to work on the project.

So far, Drasco and his students have been down in the station to



COURTESY OF PAUL MATISSE

Kepler, a 55-inch diameter ring and hammer, is part of the Kendall Band musical sculpture.

work on the project four times. Lani Lee '21, one of the students who joined the project this year, said in an interview with *The Tech* that she originally joined because of her interest in music. She also said, "It's a cool project because ... we go [to Kendall Station] all the time and ... it's ... very relaxing [to listen to]."

Amusingly, Lee noted that oftentimes when they worked, they would be misrecognized as MBTA workers. One time, Lee said she was asked, "Can you fix that machine over there? It ate our ticket."

Lee said that she plans to continue working on the project because of its low commitment and since it is "really rewarding" to successfully fix a piece.

Fixing the pieces, though, has come with many challenges.

The greatest has been finding enough students to work on the project. Matisse, in an email to *The Tech*, explained this conundrum: "In the entire world there are probably no students with less free time on their hands, no students so fiercely challenged by the requirements of their teachers, no

students more intensely focused on excelling."

Drasco said that even for a small 15-minute repair, like placing a threaded metal tube between two boxes in Pythagoras, they need at least a team of three. The team also needs to notify the MBTA ahead of time in order to obtain a flagger to warn the incoming trains.

He and Tarkanian both expressed hope that Concourse's influx of new students every year will continue providing eager restorers for the project. Drasco welcomed anyone interested in helping to email him at drasco@mit.edu.

Another challenge is that all blueprints have been lost in a hard drive failure. There is now only the Kendall Band Preservation Society's Kendall Band Operations and Maintenance Manual, a binder of technical drawings and parts lists.

Unfortunately, Drasco stated that the technical drawings were "not really useful" and therefore "of minimal influence." Furthermore, as Drasco flipped through the binder, it was clear that many of the specifications for parts were miss-

ing. Instead, Drasco and his team have been relying on Tarkanian and Matisse's expertise.

Drasco and his students also have little room to work in. Currently half of Drasco's office is occupied by restoration equipment. Drasco wished that there could be space — even a closet — outside of his office for the students to work in, so that they could also work without his supervision. But, he conceded, this was unlikely to happen at MIT, where "finding space ... is harder than finding money."

Drasco claimed Pythagoras could be completely working again by the end of IAP, an event that Matisse said would warrant "celebration." Once again, the ethereal B minor chords may be reverberating through the station. After Pythagoras, Drasco and his team will begin work on Kepler and Galileo.

With regards to the future, Tarkanian stated that while the "instruments are not terribly complicated," they will need "routine repairs and maintenance." Matisse was equally positive: "anybody who cares for it can probably make it happen."

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ADVICE

Sleeping around

Auntie Matter on shut-eye, 'ghosting,' and STDs



PATRICIA GAO

By Auntie Matter

If you have questions for Auntie Matter, please submit them at tinyurl.com/ AskAuntieMatter.

Dear Auntie Matter,

I can't wake up for morning classes. I've tried sending emails to my dorm asking for wake-up calls, I usually wake up and answer them, but then go back to sleep. I set multiple alarms but then ignore them all. I'm really worried because I have two morning classes this spring that have mandatory attendance. Please help! — Alarmed

Dear Alarmed,

I will suggest a few technical solutions, but for reasons I will outline below, I doubt they will help. Regardless, they

Download an alarm that forces you to solve math problems, set an alarm across the room so you have to stand up every time it rings, don't live in a single room so you have a partner who will wake you up aggressively, have a series of hookups who will wake you up aggressively, engineer the fire alarm in your dorm to go off every morning when you must wake up, change your class schedule, etc.

Technical solutions aside, I think

there's an underlying issue here. I suspect three main possibilities — either you have a mental health issue, a physical issue with your sleep, or you are just not getting enough "zzz's."

First: How do you feel when you wake up in the morning? What causes you to go lie down again after you've gotten up to answer the wake-up calls? What appears to be laziness can actually be caused by anxiety or unhappiness. At the least you might talk to your friends, and if you like, counseling at MIT Medical is free to

Second: How well do you sleep? Is your sleeping environment good? Do you practice good sleep hygiene? Are there any underlying physical health issues that prevent you from sleeping well? If you think that might be the case, you should talk to a doctor about it.

Third: Are you getting enough sleep? If you are so tired that your body forces you to fall back asleep even after many alarms and wake-up calls, perhaps you are overcommitted in your daytime hours. Unfortunately, there are only 24 hours in the day. If you are alotting more than 16 of them to waking activities, you should reconsider. "You need your beauty sleep,"

Dear Auntie Matter,

I gave my new boyfriend herpes and it spread to all his roomates. He keeps telling me he isn't sleeping with any of them, but I now know better. We had a big fight about it at Georgetown Cupcakes because he feels I should have told him about having contracted it even though we used a condom. Should I ghost him or stick it out?

Dear Sore,

Did your boyfriend admit to sleeping with his roommates? My sources tell me that many adults have (at least oral) herpes. Your man still has some plausible deniability here.

Regardless, your options are not limited to staying with this young man, or as you say "ghosting" him. You should aim to be proud of your conduct in all situations; would you be proud of ghosting someone? If you break up with him, which perhaps you should do if he did in fact sleep with all of his roommates (displaying not only infidelity but also exceedingly poor judgement) you should do so in a respectful manner. You owe this good conduct to

Also, if you really wanted this person to be your boyfriend, perhaps you ought to have trusted him with the information that you had contracted herpes. In fact, if you have herpes, you ought to tell your partners, full stop.

Gentle readers, if you are unsure of your STD status, get tested. And don't "ghost" people. Good lord.

THE PLUS PLUS

Do's and don'ts of Reg Day

Tips for a tip-top schedule

By Karleigh Moore

Registration Day (Reg Day) is approaching, and choosing classes for the next term has always been one of my favorite activities. As an undergrad, I was an avid user of tools like planner, firehose, and courseroad. Planning the perfect schedule™ is a skill I still haven't perfected, but here are some do's and don'ts I've compiled over the years that might help you on your way to schedule mastery.

Do yourself a favor and double check your degree requirements. Unless you're one of the lucky few with no requirements left, make sure the classes you're signing up for are going to help you make progress towards your degree. I know this seems like a no-brainer, but forgetting about a sneaky GIR or major requirement can cause last minute stress.

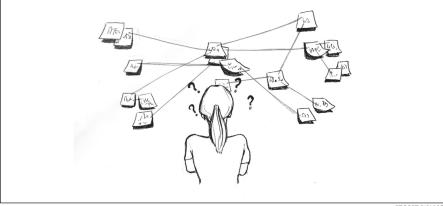
Don't stay registered for a popular oversubscribed class that you know you are going to drop. It's not very nice for folks who genuinely want or need to take the class.

Do ask upperclassmen for advice on classes. But take everything they say with a grain of salt. Classes vary from semester to semester - the professor, class structure, or syllabus might have changed since the upperclassman's time. Do some research before committing to a class. Look at course evaluations and old Stellar sites; try googling the class if it isn't hosted on

Do use cool tools like Firehose, planner, and CourseRoad to stay organized both for the semester and in your grand scheme of getting-an-MIT-degree.

Don't double- (or triple- or quadruple-) book lectures. If you absolutely can't help it, you should make sure there's a solid OpenCourseWare version of the course and make a schedule you'll stick to for watching the lectures. It's easy to get super behind when you don't have a real-life, real-time professor holding you

Do make sure your schedule has some breaks. It might seem tempting to finish the day an hour earlier by packing lectures and recitations back to back. But if you



can, allow yourself an hour-or-so break in the middle of crammed days. Get some food. Rest your brain. Hell-week-you will thank you for it.

Don't sign up for tons of morning classes if you're not a morning person (I do this every year and the struggle is real). Maybe you're one of the special few whom this will help motivate to get up early, but it is more likely that you'll just miss a lot of lectures.

Do make sure to take into account reported time spent in each of the classes you're signing up for. All units are not created equal! Your 54-unit course load may well turn out to be more like 72 units with a particular combination of classes. Make sure you know what you're getting your-

Let me know if you have any other tips!

MIT application essays that worked

'My first and most important research project to date almost ended with failure'

Tell us about the most significant challenge you've faced or something important that didn't go according to plan. How did you manage the situation?

Response

My first and most important research project to date almost ended with failure. In 2013 I started a project at Semmelweis University under the guidance of Professor Peter Csermely. The subject of my research was to explore how network-based

methods could help to find novel drug targets, which could be used to design drugs with potentially low side effects. I initially approached it by trying to establish a correlation between the number and/or frequency of known side effects to drugs and the ability of the corresponding drug targets to propagate changes in the human protein-protein interaction network (interactome). The change propagation in the network was measured by the "silencing time" (the number of simulation

steps needed for a perturbation to dissipate), using an application developed by another member of the group. However, soon it became apparent that there was no connection between these two measures, and the project appeared doomed to failure. Nevertheless, I did not give up. I looked at the obtained results from another perspective, and after careful review of the collected data, I realized that all drugs with reported side effects seemed to have low silencing times, therefore, a larger

impact on the network. I could confirm this by further statistical computations. I finally found that drugs with target proteins which were better spreaders of perturbations in the human interactome were more likely to have reported side effects. Thus, despite the initial difficulties, the research did actually bring novel results, which were later published in Nature Scientific Reports (nature.com/articles/ srep10182).

- Áron Ricardo Perez-Lopez '20

MIT application essays that worked

'My finished sculpture is born of nothing but a handful of pipe cleaners and my imagination'

Prompt

We know you lead a busy life, full of activities, many of which are required of you. Tell us about something you do simply for the pleasure of it.

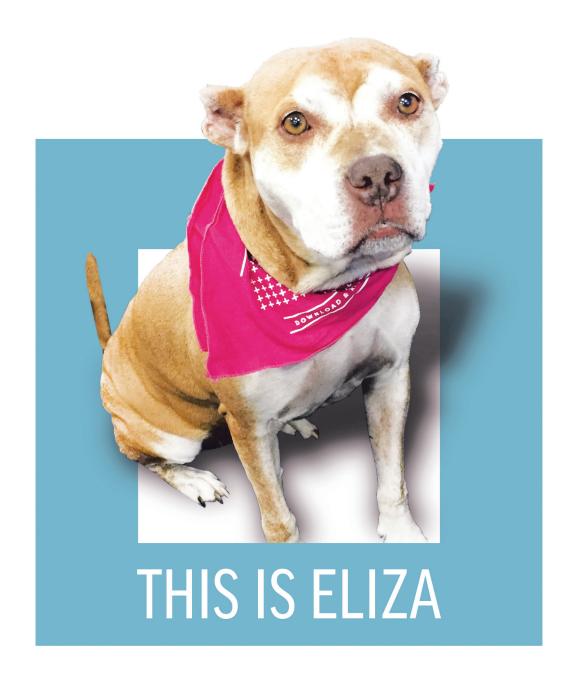
Assessing the angles of each wire, I adjust and even out imperfections. Within my hands, fuzzy limbs transform into their final form. Voila! My finished sculpture

is born of nothing but a handful of pipe cleaners and my imagination. I bend these fuzzy sticks into a multitude of life forms: trees, birds, dogs, dragons... Pipe cleaners may seem childish to use in art — but to

me, they are colorful and comforting, flexible and versatile, and there are no boundaries to what I can create with a few fuzzy

- Erica Weng '20

6 THE TECH THURSDAY, FEBRUARY 01, 2018



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Thursday, February 01, 2018 The Tech 7









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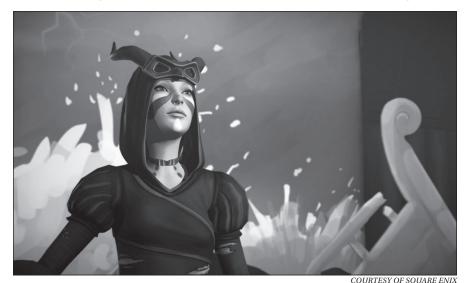
IBM Watson



VIDEO GAME REVIEW

Love done right

An in-depth look at Rachel Amber's impact on Chloe Price's life



Rachel Amber as Prospera in The Tempest.

By Nathan Liang
ASSOCIATE ARTS EDITOR

Having developed a lifelong hobby out of playing video games, I can say I've handled a variety of situations from defending the balance between darkness and light, losing multiple loved ones, mastering the art of stealth, and simply farming. And yet, out of all these experiences, very few games have ever exceptionally impacted me. *Life is Strange: Before the Storm* is one of these exceptional games.

Life is Strange: Before the Storm serves as a prequel to the first game of the series, Life is Strange, which came out in 2015. It helps to set up the events leading to Rachel Amber's (Kylie Brown) disappearance in the first game as well as dive into the complexity of Chloe Price's (Rhianna DeVries) character. There lie many similarities and differences between this game and the first, but the poignancy and artistry remains exceptionally memorable.

Before the Storm is a tri-episodic game that focuses on Chloe Price as the main character. Abandoned by her childhood best friend Max Caulfield (Hannah Telle; main character of the first game) and still dealing with her father's abrupt death by car accident two years earlier, Chloe feels dumb, out of luck, and purposeless. Her personality consists of an agglomeration of

edgy punk, casual weed user, angry at life, yet also deeply confused and emotionally conflicted about what life has to offer for her. She hardly goes to school, has a problem with dealing with authority, and hates the stuck-up "stepdouche" her mother gradually falls in love with.

The answer to her senseless trouble-making then arrives in the form of Rachel Amber; star student of Blackwell Academy, drama protégé, beautiful, popular, yet also impetuously vibrant and emotionally impulsive. She shines a light on Chloe's darkness, but also derives to be just as complex and ridden with problems as she is. Together, the two girls form an intensely close bond within days and showcases the most compelling whirlwind romance I have ever seen portrayed in a video game setting. It's teenage recklessness at its best and most wonderful.

In terms of gameplay mechanics, *Before the Storm* borrows significantly from *Life is Strange*, which makes sense since they are from the same series. This parallel, though, works excellently in detailing the similarities and differences between Chloe and Max's character. For example, Chloe uses the journal mechanic to document her days as they pass by, but in the form of letters to Max. On the other hand, Max uses the journal as a diary to herself as she copes with moving back to Arcadia Bay.

The interactivity with the environment is also something to be championed within the series. Chloe will give players her thoughts on literally anything and everything, from a "drug-free zone" poster, to the old television sitting unused and forgotten in the living room of her home, to playing a Dungeons & Dragons-esque tabletop game. One way I really loved the developers' use of this is after a plot twist takes place near the end of Episode 2. Before the twist, Chloe's thoughts on the environment are snarky and witty. After the twist, her thoughts have transformed to reflect her sorrow, despair, and confusion at the new situation.

Another great plot device used in the game is symbolism. The raven motif is ever-present, especially during Chloe's dream sequences in which her dead father is brought back to life with breathtaking vitality and realism. The dream sequences themselves represents Chloe's inability to let go her father and how she learns to cope with this inability as the game progresses. The forest fire that starts in Episode 1 and is finally contained and extinguished by the end of Episode 3 can be interpreted to mean a variety of things: Rachel Amber's witch hunt against her father; the passion that unfurls and is realized between Rachel and Chloe; or Rachel Amber herself as a fiercely independent and brash individual.

One last thing I will touch upon in regards to this amazing game is the sound mixing and voice acting. No doubt the writing put into this game is absolutely phenomenal, but the characters would not have come to life as they did without all the wonderful voice actors and actresses behind each and every personality. Kylie Brown breathed life into Rachel Amber with her charismatic beauty and her emotionally charged actions. Rhianna DeVries mastered Chloe Price's witticisms and employed the perfect heart-wrenching tones whenever Chloe felt she was going through an exceptionally rough or puzzling moment.

Then, if you've played the original *Life* is *Strange*, you'll know that the developers have a very good taste in music; this game being no exception from their wonderful soundtrack decisions. My personal favor-

Life is Strange: Before the Storm

Developed by Deck Nine Games

Published by Square Enix
Rated M for Mature

Available on PS4, Xbox One, and PC

ites from the listing include "Dreams of William," "Departure," "Voices," "Flaws," and "Youth" (all by Daughter). Others not from the band that basically did most of the soundtrack are "Now Below" by Speedy Ortiz, "Through the Cellar Door" by Lanterns on the Lake, and "Taking You Here" by Broods. As Torri and I noted as we played through Before the Storm, something that is often overlooked and underappreciated in the game development process is the use of a solid soundtrack. Games can be beautiful, well-written, or have the most innovative gameplay mechanics, but a beautiful, soul-provoking soundtrack can be one of the factors that takes a game to the next level. In this respect, I can't praise the makers of the Life is Strange series enough.

Life is Strange: Before the Storm is, to put it simply, one of those games you will never forget. Never have I so strongly felt adoration, fury, sadness, sympathy, and amusement within a single playthrough; and yet, the few things that rise above all other emotions at the end of the day is an appreciation for the deep love and companionship Chloe and Rachel find within each other, as well as an immense sadness knowing their fates by the end of the original Life is Strange game.

If you haven't picked this game up already, I highly recommend you give this game a chance. Additionally, the content for *Before the Storm* has not yet run out, as its bonus episode "Farewell" is set to release for Deluxe Edition possessors on Mar. 6 of this year.

EPISODIC REVIEW

The subconscious of the Cold War era — revived

Philip K. Dick's short stories given new life in new TV series

Philip K. Dick's Electric Dreams

Episode 1: Real Life

Developed by Ronald D. Moore and Michael Dinner

Based on "Exhibit Piece" by Philip K. Dick

By Torri Yearwood

I'm a huge fan of Philip K. Dick's works, from his more famous works ("Do Androids Dream of Electric Sheep," adapted as the film Blade Runner, "We Can Remember it for You Wholesale," adapted twice as films under the title of Total Recall, "Minority Report," which has a film under the same title, and "The Man in High Castle," which has a television show under the same name), to his brilliant, but far less appreciated works, like "Flow My Tears, the Policeman Said," "Psi-man Heal My Child," and "Second Variety." Imagine my excitement, then, when I heard that there is a new television show based on these lesser-known short-stories! Each episode is a different adaptation of a self-contained short-story, so you can watch/read these in any order, Black Mirror-style.

This will be a weekly segment, going indepth with each episode; comparing the original text to the televised story, analysing themes and reviewing each episode as they stand alone. So at this point, I should say that

if you love thoughtful sci-fi, pick up a collection of PKD, pull up Amazon Video, and absorb this author's mastery of the genre.

The first episode (in the Amazon ordering) was "Real Life", based on the short story "Exhibit Piece".

Overall, the episode was a pretty good intro to the style and generally unsettling feel that is PKD's stories. The music was reminiscent of *Blade Runner: 2049*'s modernization of Vangelis' iconic, future-noire feel; it really supported the distorted and mysterious mood. Aside from some clunky dialogue, which attempted to close up some of the loose ends that are quite uniquely featured in PKD's works, the story kept moving, giving concise information when necessary, showing everything that you needed to know, and making the viewer invested in the world by the five-minute mark.

While not particularly true of its print counterpart, the modernizations provided an interesting, fresh interpretation of the 54-year-old story. The devil, here, was in the details. PKD was a master of subtlety and careful, concise details. Few words were spent on unnecessary, redundant, or overly-explanatory dia- or mono-logues. This paradigm is difficult to make into an interesting television show, but the director did a good job capturing the minimalism of the book, all things considered, even if it meant an awkward monologue, occasional throwaway lines, and some clichés.

Personally, I really enjoyed both the book and the episode, so I highly encourage you to go watch the episode and/or read the book before continuing reading because:

<SPOILERS>

As a refresher, the episode takes place in the not-too-distant future. Our protagonist is lesbian super-cop Sarah, a survivor



COURTESY OF CHANNEL 4

George (Terrence Howard), Sarah's 21st century alter-ego.

of a recent ambush from the mob. As a form of escape, she is offered a new form of VR which builds the "game" from the subconscious.

Cut to the 21st century, now following a freshly-concussed multi-billionaire software designer and vigilante, George. In vague flashes we find out that his wife, who is suspiciously similar to Sarah's wife, was brutally and publically murdered when he didn't give in to kidnapper's demands.

The remainder of the episode is a coupling of periodic switches between worlds with eerie similarities between the two. Unsettlingly, these worlds not just imitate each other but foretell events, making the line between what is real and what is a

Eventually, Sarah is pressured in both worlds to choose what is real and what is not, resulting in a rather permanent choice.

The book, however, has quite a different tone and setting. The story is about George Miller, a 22nd century historian studying — and recreating — the 20th century, whose exhibit mysteriously comes to life. However, he finds himself oddly accustomed to the archaic ways. He finally chooses this alternate reality over his own. He escapes the threats of destruction of his exhibit from his boss in the 22nd century only to find that his adopted 20th century world in danger of nuclear annihilation.

Evidently, the book and episode are quite different in their plots, but the pair are almost in unison thematically. Although the mechanism is different in each case the idea is the same: When presented with two worlds, each chose the trials of the their fantasy world over what appeared to be a perfect life in their real lives.

THEATER REVIEW

Step aside, Shakespeare, Dame Christie's here

If you don't get it the first time, Go Back for Murder



COURTESY OF MIT SHAKESPEARE ENSEMBLE

Amyas and Elsa dismiss a mischevious Angela.

By Torri Yearwood ARTS EDITOR

Going to the theatre is always interesting. You go in, watch some people be someone else for a while, then walk out with either a moral, more questions than you went in with, or feeling that what you've been led to believe is false. It's just a play, so I shouldn't be salty, but I'm still a little salty. This was a piece in true murder mystery style, in which you cannot be certain of who did it (Mr. Greene in the Library with the Wrench, by the way) until the final reveal, presented and performed masterfully.

The first half of the play was fast-moving and fluid, following the quest of Carla LeMarchant (A.K.A. Carla Crale, Matisse

Pepper '20) to find out how her father was murdered and why her mother was sent to prison (and to her death), even though she believed herself innocent, all of 16 years ago. To this end, she enlists the help of a solicitor, Justin Fogg (John Bond '19), who initially refused the case. However, upon meeting Carla's rude and pushy Canadian fiancé, Jeff Rogers (Julian Hernandez '21), Fogg takes particular interest in prying the truth from the five surviving members of the incident to reconstruct, and, if possible, discover the truth about what happened on that fateful day. To keep the action moving, and the plot thickening, the stage was split into two halves. One was illuminated and the other was darkened, allowing scene changes on the dark half, while action played out in the light, allowing the actors to seamlessly travel from scene to scene.

After the intermission, it was whodunnit time. Now, in the room where it happened, the characters narrate and reenact the events of 16 years ago. The stage now unified, Carla and Justin join us in the audience as the scene unfolds, full of red herrings, drama, old loves revived, and finally a death re-lived. Go Back for Murder

Performed by MIT Shakespeare Ensemble

Little Kresge Theater

Based by the play by **Agatha Christie**

Directed by Nelson Niu '21

Produced by Zach Obsniuk

While clear in retrospect, the conclusion was monstrously difficult to guess, even with evidence as given (not salty about being wrong at all...).

Altogether, it was an excellent play put on by excellent performers and personnel! Congratulations to all involved and especially to Nelson for an excellent directing debut!

POETRY REVIEW

A night at the Cantab
Poets take on the spotlight at the Cantab Lounge in a cozy open mic, a feature by Nancy Huang, and the Last Chance Poetry Slam

Weekly Wednesday **Poetry Nights**

Doors open at 7:15 p.m.

Open mic starts at 8:00 p.m.

Feature performs at 10:00

Show is 18+ (ID required)

738 Massachusetts Ave. Cambridge, MA

By Mariam Dogar

A woman scribbles rapidly into her old, worn-out notebook in the dim light of the bar. There's a world buzzing around her, but the only things she sees in her peripheral vision are the dark colors of the counter and the clear bubbles in her drink. She's focused on her writing, finding words for the feelings pulsing through her.

A name is called, and suddenly, the spell is broken. She heads to where she was summoned, a little stage in the front of a tiny arena of warm faces and hungry ears. She flashes a smile as the spotlight hits her face, as if she was accustomed to its glow. She begins to speak, her words flowing out. Her well-crafted phrases inspire awe, and her ironic quips elicit snaps from the audience.

I watch as the unassuming woman who, moments before, was sitting behind me tells a story like a song, and I wonder how many more poems she has scribbled in that notebook. She is only one of many poets I notice throughout the night engaged in similar activity. Some people are furiously writing in notebooks, others are typing away inspired notes on their phones, and many are simply enjoying the performances, sitting back and appreciating the creative efforts of the open mic poets.

The Cantab open mic lasts for two hours and is actually the most well-attended portion of the show, frequently selling out before the feature performance. Anyone can sign up before the open mic to read their own poetry, prose, advertisement for a poetry venue, oneact play, etc. Nothing has to be memorized, and there is no pressure whatsoever to perform a certain type of way. The themes and topics covered by the poems greatly vary; I heard poems about hurt, happiness, love, violence, growing up, family, sexuality, and culture. There were also many light-hearted poems with whimsical word choice and topics. The audience was welcoming and the atmosphere was very supportive, with fellow poets commending other poets on the courage it takes to go up on stage and share. As the night progressed, even the bartenders and hosts had performed fantastic poems, contributing to the family-style vibes of the event.

The featured poet for the night, Nancy Huang, also had a lot to say about the atmosphere. She noted to me that "crowds have a lot of power over performances" and "everyone at the Cantab was so warm and open." Nancy Huang is a winner of the 2016 Write Julius Gutow Academy of American Poets Prize, a James F. Parker Award in Poetry, and more. Her writing has appeared or is forthcoming in Vinyl, Bodega Magazine, TRACK// FOUR, Winter Tangerine Review, The Shade Journal, and others. At the Cantab, she read poems from her debut poetry collection, Favorite Daughter.

Nancy grew up both in America and China, and her collection focused on ideas such as belonging, cultural struggle, and harmony. Her poems are easy for many to resonate with, as we live in a world nowadays where a lot of people are living in places and societies very different to those they had grown up with. What I found most interesting and engaging about her poems were the interjections of Google Translate clips and layers of dictionary definitions, playing on the meanings ascribed to multiple Chinese and English words.

When commenting to me about how she thought the night went, Nancy said, "I think the event went so well! I was very nervous to be onstage and performing but the crowd had really good energy which really made me feel better about being up there."

Following the feature performance, Simone Beaubien, the SlamMaster, came up to me. Simone has operated as the SlamMaster for the Boston Poetry Slam at the Cantab Lounge since February of 2004. She acts as the host, booking manager, press agent, webmaster, and coach for the annually selected slam team. She herself competed at the National Poetry Slam from 2004 through 2010, excluding 2009. After a six-year hiatus, she returned as a member of the 2016 Boston Poetry Slam

Simone asked me to be a judge for the ight's poetry slam in which the final quali-Bloody Poetry Chapbook contest, an Andrew fiers for the team selection rounds would be picked. At first, I thought she surely must've

had me confused for someone else, but she assured me I did not have to be an ordained poetry critic. All she looks for when picking slam judges from the audience are people who don't have any connections to the competing poets and will comprise a panel of diverse backgrounds and tastes. She explained to me that we would be hearing original poems under the length of three minutes, and the performances would have no props, no costumes, and no musical accompaniment. By the time that the audience's clap at the end of the poem had diminished, I would have to show Simone a score between 0-10 that I had given the poem.

Judging was initially stressful, but soon I got lost in the beauty and humor of the competitors' poetry, and I really enjoyed myself. By the end of the night, the group that would be competing in the Team Selection slams were set. This competition has been around for quite a while; the Boston Poetry Slam was born in May of 1991, imported directly from slam's birthplace, Chicago, by Michael Brown and Patricia Smith. The goal was to promote new voices in performance and competition poetry. In 1992, the Wednesday show became permanent at the Cantab, becoming one of the three oldest slams world-wide. The show continues to be a hub for the New England performance poetry scene, inviting in highquality featured poets like Nancy Huang and even hosting a couple of the National Poetry

Over the next few weeks, the Team Selection preliminaries and finals will be taking place, and there is an excellent lineup of featured poets coming to town, including anticipated poet and essayist Hanif Abdurraqib on Feb. 7 and Ariana Brown in a special NO RO-MANCE open mic on Valentine's Day.

ALBUM REVIEW

Love is not always butterflies

Jazz trio explores every side of the emotion in their new release By Patricia Gao jazz love letter to a hopeful 2018." Knowing seem harsh. But while they are mast

STAFF WRITER

Vaguely, something rings. The sound fades in and out. A piano starts up with the heavy kind of tune reminiscent of a rainy documentary montage. "I know," says a voice, like a dystopian intercom, "of no better topic for us to discuss / Until we all die."

Thus begins The Subject Tonight Is Love, the title track of the first-ever trio album from musicians Kate McGarry, Keith Ganz, and Gary Versace. The voice, quoting Persian poet Hafiz, is McGarry's, and only in the album's first song does it sound oddly post-apocalyptic. Beyond that, McGarry's voice dips and soars like Regina Spektor's does, carving dif-

ferent shapes from a concrete substance: love. According to McGarry, this record is "a that, I expect The Subject Tonight Is Love to be predominantly cheerful, but I am pleasantly surprised. McGarry and her fellows have a mature understanding of love — their songs encapsulate all shades of the feeling.

Each piece has its own personality, supported by the talent of the trio. The work of keyboardist Versace fits seamlessly underneath Ganz's string melodies: the trio's take onthe jazz standard "My Funny Valentine" is a desolate one, and the instrumentalists set the scene in an appropriately solemn way. Conversely, to form the unworried air of "Mr Sparkle / What A Difference A Day Made," Versace sets the piano aside in favor of the lighter, jauntier accordion.

Ganz and Versace play their parts softly, in a way that makes more populated music seem harsh. But while they are masters at constructing moods, McGarry is a master at living in them. Throughout the album, her voice embodies many types of love. It fills with warning in the unapologetically alcoholic "Climb Down / Whiskey You're The Devil"; it throws out some whimsical improvisation — and an ending "whoosh" for a song called "Gone With The Wind." My favorite song on the record is "Losing Strategy," a beautifully developed track with the lyric "I thought now it's your turn to cry / The thing I most loved I just watched die."

So McGarry's "jazz love letter" is far from one-dimensional, but it is hopeful. Her trio seems to say, look, there are many types of love that we can sing and play and talk about: nostalgic love, young love, unconditional love, love like the atmosphere

The Subject Tonight Is Love

Kate McGarry, Keith Ganz, Gary Versace

Binxtown Records

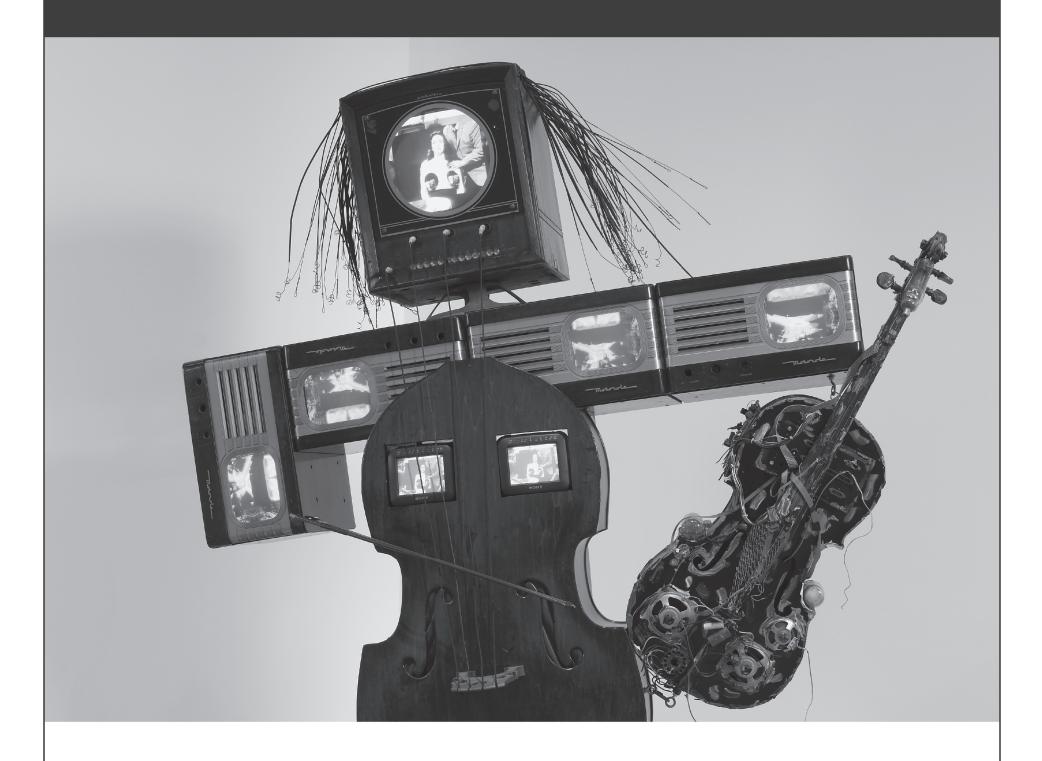
Feb. 2, 2018

of a front porch felt in the track "Indian Summer." Some types are good, some types are dangerous, and some types are both. They're all love. And it's important not to forget about that feeling.

Thursday, February 01, 2018

The Tech 10

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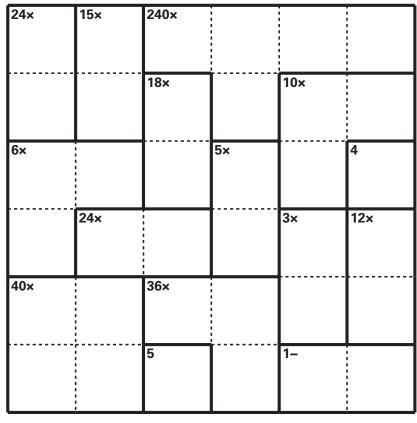
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Solution, page 12

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6			9		3			4
		3		2		8	9	
	2	9		8	1			
5			3		4			
			5			1		

Instructions: Fill in the grid so that each column, row, and 3 by 3 grid contains exactly one of each of the digits 1 through 9.

Solution, page 12



Instructions: Fill in the grid so that each column and row contains exactly one of each of the numbers 1–6. Follow the mathematical operations for each box.

18

Leakless by Billie Truitt

Solution, page 12

ACROSS

- 1 Fried chicken piece
- 6 Segments of a play
- 10 Karate blow 14 "Do ya __ bet?"
- 15 Ark builder
- 16 Walk back and forth
- 17 Equally distant
- 18 "Me, neither"
- 19 Metallic rocks
- 20 Spectacular performance
- 23 Flying mammal
- 24 Sailor's greeting
- 25 Sour fruits
- 27 Alloy used for mugs 30 Cry of dismay
- 32 Big fuss
- 33 Untrustworthy one
- 35 Rosters 38 Glowing gas in store signs
- 40 Lustrous fabric 42 Jump
- 43 Brought to a close
- 45 Be worthy of 47 Tire contents

- 48 Blackboard accessory
- 50 A bit cold outside
- 52 Indicate
- 54 Throat-clearing sound
- 55 Dog registry org.
- 56 World traveler's electrical
- gadget
- 62 Cleopatra's river 64 Brother of Cain
- 65 Elk's cousin
- 66 Part of a tied tie 67 __ fish sandwich
- 68 Selling point
- 69 Omelet ingredients
- 70 Approximate takeoff hrs.
- 71 Impolite looks

- _ the night before Christmas . . ."
- 2 Corned beef concoction 3 Useful facts
- 4 Chew on, as a dog with a bone
- 5 More severe

- 6 Irritate
- 8 Waterproof covering
- 9 Police officer's badge
- 10 Navy noncom: Abbr.
- 13 Bothersome ones
- 21 Bulls, in Spain
- 26 Postal delivery
- 27 Window glass
- 28 Genesis paradise

- 34 Monopoly or Clue
- 36 Tip of a kite
- 37 Agile
- 39 Infamous Roman emperor
- 41 Specialized retail market
- 44 Facts and figures 46 Heat-retaining, as
- 49 Calm and quiet

- 7 Hens' home

- 11 Coastal aquatic mammal
- 12 Whale's habitat
- 22 Rod and __ (fishing gear)

- 29 Traditional Dutch shoe
- 30 External
- 31 Crown prince, for example

- blankets

43

17

20

27 | 28 | 29

32 36 | 37 38 40 42 50 55 59 | 60 | 61 62 65 67 68

70

- 51 Levy, as a tax
- 52 German word of gratitude
- 53 __ out a living (making do)
- 54 Book of maps
- 57 Border on
- 58 Await approval
- 59 Misplace
- 60 ___-friendly software 61 Obtains

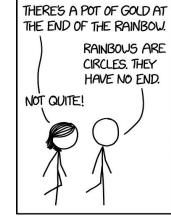
19

25

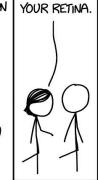
63 UFO pilots

[1944] The End of the Rainbow





A RAINBOW IS LIGHT LEAVING THE SUN, BOUNCING OFF THE CLOUDS, AND CONVERGING ON YOUR EYE. IT'S AN INSIDE-OUT TWO-ENDED CONE.



ONE END OF

THAT CONE IS

THE OTHER END IS THE SUN-WHICH CONTAINS QUINTILLIONS OF TONS OF GOLD. THERE'S MORE GOLD IN THE SUN THAN WATER IN THE OCEANS.

50 THERE IS A POT OF GOLD! WHAT ABOUT LEPRECHAUNS? ALL INCINERATED AS THE

SUN FORMED. VERY SAD.

AJ Edelman '14 to represent Israel at the 2018 Winter Olympics Former member of Engineers Hockey will compete in skeleton at the Olympics in South Korea

By Ahaan Rungta SPORTS EDITOR

Earlier this month, it was announced that MIT alumnus Adam "AJ" Edelman, Class of 2014, would participate in the 2018 Winter Olympic Games in skeleton at Pyeongchang, South Korea. The sport of skeleton, named due to the appearance of its characteristic sled, is a winter sliding sport in which a person rides a sleigh down a frozen track while lying face down. It is an individual sport that Edelman has been interested in since his time after MIT.

While at the 'tute, Edelman, a Boston native, was on the Engineers' hockey team and was

sic at BU this past weekend.

the first shomer-shabbat player in program history. He was also briefly a staff columnist for The Tech. After graduating with a degree in Mechanical Engineering (with a concentration in man-

agement applications of MechE), he took to bodybuilding and performed at a high level at the 2014 Drug-free Annapolis Bodybuilding Championships. It was after this brief stint that he took to skeleton and he has not looked back since.

Edelman, now nicknamed "The Hebrew Hammer," is a representative of the country of Israel and in his career on the Israeli team that started in 2014,

he has won four national titles and is the owner of multiple records at the tracks he has raced in recently.

Edelman has focused a lot on spreading the joy of sports amongst his community

members ever since he was in grade school. He advocates the meaning of athletics as a way to encourage those with similar heritage to pursue their dreams and has made it a personal goal to

"inspire more Jewish and Israeli participation in sport, and to use the Olympics as a springboard to launch a foundation to aid Jewish and Israeli athletes in their athletic pursuits."



AJ Edelman (Israel) competes at the 2016 IBSF World Champion-

SPORTS BLITZ

Men's Squash (No. 22) started the weekend with a win over No. 21 Middlebury College on Friday, but sustained loses to No. 16 Virginia and No. 19 Williams on Saturday and Sunday respectively.

Women's Fencing (11-7, 9-3 NFC) defeated four out of six opponent teams Sunday at the Northeast Fencing Conference #2. The Engineers had a strong showing in epee with a record of 41-13 this competition.

Men's Fencing (11-5, 8-2 NFC) beat five out of six opponent teams Sunday at the Northeast Fencing Conference #2. The Engineers did well in all three categories, epee, sabre, and foil.

Women's Swimming and

Diving (No. 8) fell to Division I Boston College last Friday, 163 to 137. Hannah Mahaffey '21 had three first-place finishes in the 200-free, 200-back, and

Men's Swimming and Diving (No. 4) dominated Division I Boston College last Friday, 214.5 to 83.5. The Engineers won all top three places in the 50-free, 100-free, and the 100fly and garnered the top four places in the 200-free.

Women's Track and Field (No. 2) posted seven top-20 national marks at the John Thomas Terrier Classic at BU and the Branwen Smith-King Invitational at Tufts this past Friday and Saturday. The Engineers finished third out of 16 teams with 79 points at Tufts.

Men's Track and Field (No. 6) posted six top-20 national marks at the John Thomas Terrier Classic at BU and the Branwen Smith-King Invitational at Tufts this past Friday and Saturday. The team finished third out of 14 at Tufts.

Women's Basketball (11-7, 7-4 NEWMAC) fell to the U.S. Coast Guard Academy 71-53 this past Saturday. Kylie Gallagher '21 scored a team-high of 14 points, along with five rebounds and two blocks. Taylor V'Dovec '19 scored 13 points and nine rebounds for the Engineers.

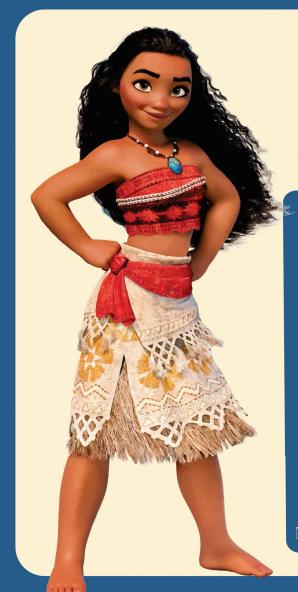
Men's Basketball (17-2, 7-1 NEWMAC) defeated Emerson College 77-51 this past Saturday. Bradley Jomard '19 scored a season-high 27 points.

DID YOUR MIT ESSAYS GET YOU IN?

Katie Williams '21 competes at the John Thomas Terrier Clas-

COURTESY OF DAPER COMMUNICATIONS

The Tech is collecting successful application essays (hint: yours!). Email your pieces to cl@tech.mit.edu!



Saturday, February 3 6:30 PM

Come Watch Moana in the Zesiger Center Pool

Boloco will Be Served

MindHandHeart 👼 DSL Division of Student Life SaveTFP

Solution to Vim

from page 11

4	3	1	2	6	5
6	5	3	4	2	1
3	2	6	1	5	4
1	6	4	5	3	2
5	4	2	3	1	6
2	1	5	6	4	3

Solution to Emacs

3	1	4	2	6	5	9	8	7
2	5	7	8	4	9	3	6	1
9	6	8	1	3	7	4	5	2
7	9	5	4	1	8	2	3	6
6	8	2	9	5	3	7	1	4
1	4	3	7	2	6	8	9	5
4	2	9	6	8	1	5	7	3
5	7	1	3	9	4	6	2	8
8	3	6	5	7	2	1	4	9

Solution to Leakless

from page 11

T	Н	I	G	Н		Α	C	T	S		C	Н	0	Р
W	Α	N	Ν	Α		Ν	0	Α	Н		Р	Α	C	Е
Α	S	F	Α	R		Ν	0	R	I		0	R	Ε	S
S	Н	0	W	S	T	0	Р	Р	Е	R		В	Α	T
			Α	Н	0	Υ			L	Ε	М	0	N	S
Р	Ε	W	T	Е	R		0	Н	D	Ε	Α	R		
Α	D	0		R	0	G	U	Е		L	I	S	T	S
N	Ε	0	N		S	Α	T	I	N		L	Ε	Α	Р
Ε	N	D	Е	D		M	Е	R	ı	T		Α	I	R
		Ε	R	Α	S	E	R		С	Н	I	L	L	Υ
D	Ε	N	0	T	Ε			Α	Н	Ε	M			
Α	K	С		Α	D	Α	Р	T	Е	R	Р	L	U	G
N	1	L	Е		Α	В	E	L		M	0	0	S	Е
K	N	0	T		T	U	N	Α		Α	S	S	Ε	T
Ε	G	G	S		Е	T	D	S		Ь	Е	Ε	R	S